

CLAIMS

1. Device for assembly of the latticework jib
elements of a tower crane or another similar
5 latticework structure, the said elements comprising
upper chords and lower chords connected to one another
by means of triangulation bars, characterized in that,
in the region the upper chords, there is provided an
assembly by shackle and tenon connected demountably by
10 means of a shaft, with:

- a shackle integral with an upper chord end of an
element to be assembled, the shackle possessing
two branches located in parallel vertical planes
and pierced with main coaxial cylindrical holes of
15 a diameter corresponding to the diameter of a
connecting shaft,
- a tenon integral with another upper chord end of
an element to be assembled, the tenon being
located in a vertical plane and being pierced with
20 an oblong hole,
- the connecting shaft capable of being engaged
through main cylindrical holes of the shackle and
through the oblong hole of the tenon, and,
- on the shackle and the tenon, complementary
25 abutment means acting in a substantially vertical
direction and in a substantially horizontal
direction for the relative positioning of the
shackle and the tenon during assembly.

30 2. Assembly device according to Claim 1,
characterized in that the abutment means acting in a
substantially vertical direction consist of an abutment
plate joining the two branches of the shackle in their
lower part and cooperating with the lower face of the
35 tenon.

3. Assembly device according to Claim 1 or 2,
characterized in that the abutment means acting in a
substantially horizontal direction consist, on the one

hand, of a rotary positioner seated in the shackle and produced in the form of a shaft passing through two secondary coaxial cylindrical holes formed respectively in the two branches of the shackle, the shaft-shaped
5 rotary positioner being provided with a flat and with manipulating and immobilizing means which make it possible to bring the flat into and maintain it in a vertical position, facing the location of the connecting shaft, or in a horizontal position, and
10 these abutment means consisting, on the other hand, of a substantially vertical plane front face of the tenon.

4. Assembly device according to Claim 3, characterized in that the means for manipulating and
15 immobilizing the rotary positioner comprise a control handle connected to one end of this rotary positioner, and at least one immobilizing pin engageable into a diametral hole of an end region of the rotary positioner and into a lateral tab integral with a
20 branch of the shackle.

5. Assembly device according to Claim 4, characterized in that the or each pin serves for immobilizing the rotary positioner in its angular
25 position in which its flat is in the horizontal position.

6. Assembly device according to Claim 4 or 5, characterized in that the lateral tab possesses an
30 indentation provided for cooperating with the handle for manipulating the rotary positioner, at the same time forming an abutment stopping this positioner in its angular position in which its flat is in the vertical position.

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7. Assembly device according to any one of claims 1 to 6, characterized in that the connecting shaft, of cylindrical general shape, engaged through the shackle and the tenon possesses a widened head at one end,

while its other end comprises a diametral hole provided for receiving an immobilizing pin, the connecting shaft formed in this way having its head connected by means of a short connecting cable to the shackle or to a member retained on this shackle.

8. Assembly device according to the whole of claims 3 and 7, characterized in that the connecting cable connects the head of the connecting shaft to the rotary positioner, in particular to a pin of this positioner.

9. Assembly device according to any one of claims 1 to 8, characterized in that it comprises, in the region of the lower chords of the elements to be assembled:

- two centering pegs integral with one end of an element to be assembled, the axes of the centering pegs being oriented in the longitudinal direction of the said element,
- two holes corresponding respectively to the two centering pegs and formed at another end of an element to be assembled, and
- a locking assembly consisting of two connections spaced apart from one another, with clamping and locking means, the said connections being provided for joining the mutually adjacent ends of the two jib elements, in the region of their lower chords.

10. Assembly device according to Claim 9, characterized in that each centering peg comprises, starting from an outer tip, in succession: a frustoconical first part of smaller diameter and relatively elongate; another frustoconical part located in the elongation of the preceding part, of larger diameter and relatively short, with a cone aperture angle-larger than that of the frustoconical first part; a cylindrical calking part attached to the structure of the jib element, in the region of the lower chords.

11. Assembly device according to Claim 9 or 10, characterized in that the centering pegs are mounted on an end crossmember of the "stringer" of the jib element, that is to say of the horizontal lower
5 latticework of this jib element, composed, on the one hand, of the lower chords forming a rolling track for the jib trolley and, on the other hand, of the crossbracing bars or diagonals, the centering pegs being located in the region of the lower chords.

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12. Assembly device according to Claim 11, characterized in that the two holes provided so as to correspond to the two centering pegs are formed in the region of the lower chords, on another end crossmember
15 of the "stringer" of the jib element, at that end of this element which is opposite that carrying the centering pegs.

13. Assembly device according to any one of claims 9
20 to 12, characterized in that each of the two connections of the locking assembly comprises a clamping shaft mounted slideably on a jib element, in the region of the lower chords, in the longitudinal direction of this element, between a retracted storage
25 position and an advanced assembly position, the clamping shaft possessing a receptacle provided for receiving a locking wedge of the connection.

14. Assembly device according to Claim 13,
30 characterized in that each clamping shaft itself comprises, from the rear forward, a guide sheet or plate, a widened head forming an abutment, a cylindrical part provided with a receptacle for receiving the locking wedge, and a tip, the guide sheet
35 or ~~plate~~ cooperating with a slideway fastened to the jib element, in particular welded to the end crossmember of the "stringer" of the jib element.

15. Assembly device according to Claim 14, characterized in that the slideway comprises an abutment member, such as a pin, provided for limiting the retraction of the clamping shaft into the storage position, as a result of cooperation with the guide sheet or plate.

16. Assembly device according to Claim 14 or 15, characterized in that the clamping shaft passes in a freely slideable manner through a corresponding orifice of the end crossmember of the "stringer" of the jib element.

17. Assembly device according to any one of claims 13 to 16, characterized in that the receptacle formed in the clamping shaft for receiving the locking wedge possesses an end face inclined at an angle corresponding to the slope of the locking wedge.

18. Assembly device according to any one of claims 13 to 17, characterized in that the locking wedge receives a pin for securing this locking wedge.

19. Assembly device according to any one of claims 1 to 18, characterized by its use for demountable connection of the elements of a jib or counterjib of a tower crane without a masthead and without a jib tie.